



UNITED STATES
DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
NORTHWEST REGION

REPORTING ADDRESS:
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PORTLAND, OREGON 97201

November 25, 1970

MEMORANDUM

TO: Nelson Grubbe, Director, Office of Regulatory Programs

FROM: William B. Johnson, Chemical Engineer

SUBJECT: Ongoing status reports for Georgia-Pacific and
Weyerhaeuser mercury pollution cases

The reports for the present status of the Georgia-Pacific and Weyerhaeuser mercury pollution cases are attached. There is a separate section in each report for each party interested in the cases. The parties are Georgia-Pacific, Weyerhaeuser, Federal Water Quality Administration, Department of Justice and the Washington Department of Ecology. Events are listed chronologically for each party after a brief introduction. This format will enable us to maintain an ongoing status report for the cases.

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SUMMARY

Through November 30, 1970

The U.S. Department of Justice filed suit on July 29, 1970, against Weyerhaeuser, Longview, Washington. The suit was a civil action to enjoin Weyerhaeuser from discharging mercury or mercury compounds into the Columbia River in violation of Section 13 of the Rivers and Harbors Act of 1899 (30 Stat. 1152, 33 U.S.C. Sec. 407). Weyerhaeuser allegedly violated the Act in that, without a permit, they are discharging mercury to navigable waters.

On October 15, 1970, Justice and Weyerhaeuser entered a stipulation. It provided that (1) Weyerhaeuser would limit mercury discharge from its chlor alkali facilities to no more than eight sources per day per facility (they have two plants) and that (2) Weyerhaeuser would make daily measurements of Hg discharges from its pulp and paper operations as well as from the chlor alkali plants and that they would submit results to Justice and FWQA monthly, and that (3) Weyerhaeuser would submit a report by December 1, 1970, setting forth plans for future reductions at its Longview "plant". As to the third of these provisions, it is unclear whether "plant" refers only to the chlor-alkali facilities or to the pulp and paper operations as well.

A report submitted on November 3, 1970, shows that Weyerhaeuser now discharges 4.4 oz 1 day and 1.3 oz 1 day from its two chlor-alkali plants. This is significantly less than the 15 lbs. 1 day back in July. Its other facilities are shown to discharge 6 - 8 oz. 1 day. However, these figures only represent the discharges to the Columbia River from its sewers. We don't know how much is discharged in the sludge to the holding pond.

We need an overall material balance on the whole complex at Longview. Mercury is fed into the chlor-alkali process and probably comes out in varying amounts in the two products (chlorine and caustic), in the sludge, in the leakage (if any), and in the condensate from the barometric condenser.

We probably don't need as detailed a material balance on the pulp and paper operation. Probably the major source of contamination there is the product of the chlor-alkali plants, which is used in the pulp and paper operations.

The State-Federal water quality standards do not specify criteria for mercury itself. However, the State of Washington did adopt and the Secretary of Interior did approve criteria as follows:

"Toxic, Radioactive or Deleterious Material Concentrations shall be below those of public health significance or which may cause acute or chronic toxic conditions to the aquatic biota, or which may adversely affect any water use."

WEYERHAEUSER, LONGVIEW, WASHINGTON

Introduction

Weyerhaeuser at Longview has two chlor-alkali plants which use mercury in an electrolytic process to extract chlorine and caustic soda from brine. Water, salt, and mercury are fed into the process to produce the product and wastes. Through April 1970, practically all of the wastes were discharged to the Columbia River, which is an "interstate" water within the meaning of the Federal Water Pollution Control Act, and a "navigable" water within the meaning of the Refuse Act. The wastes are highly contaminated with mercury.

April 1970 to November 1970

The company made a number of changes to reduce mercury discharge to the Columbia River. One significant change was to begin discharging sludge to a storage pond instead of to sewers. The sludge is highly contaminated with mercury. The sludge in the pond is treated with sulfur to convert the mercury to mercuric sulfide, a compound found in nature. Sludge is no longer discharged directly into the river. However, there is a serious question concerning what effect the sludge mercury might have on groundwater. If the mercury contaminates groundwater, then there is the question of where the groundwater flows.

Weyerhaeuser made another significant mercury discharge reduction by recycling most of its mercury-contaminated streams. The major outlet streams are the product (chlorine and caustic) and sludge streams. The rest of the process is essentially a closed system. (See Figure). Before the recycling was accomplished but after the sludge storage pond was completed, FWQA sampling indicated that the plants were discharging, collectively, 15.1 #/day of mercury to their sewers. After the recycling steps were taken, FWQA sampling indicated a discharge of 1 #/day on 7/17/70. FWQA sampling of sewers showed 7 #/day to 9 #/day for 8/19/70 and 8/20/70.

October 15, 1970

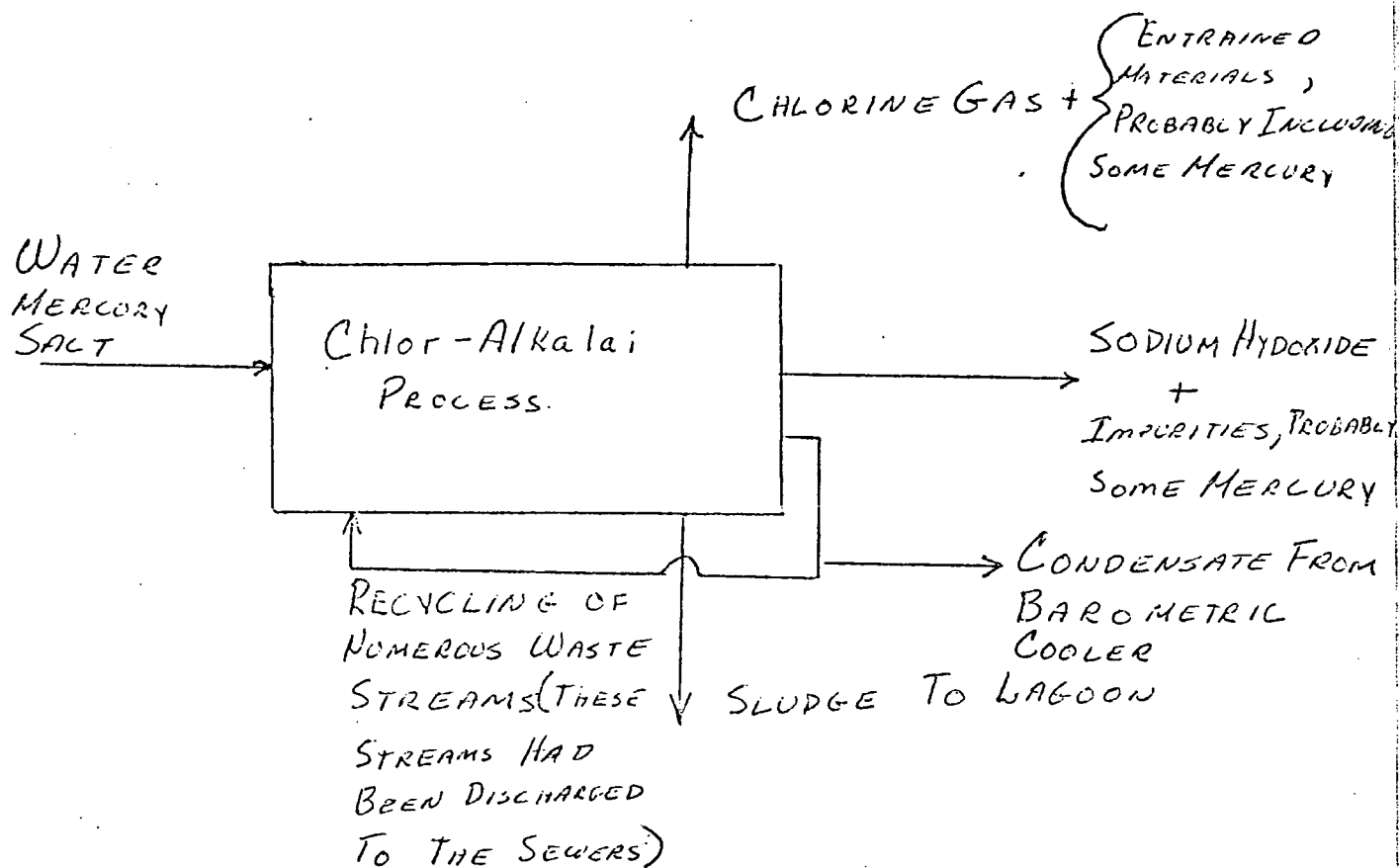
Entered into stipulation with Justice Department in suit brought under the Refuse Act of 1899.

November 3, 1970

Submitted report in attempt at compliance with paragraph 54 of the stipulation dated October 15, 1970. They reported a discharge of 4.4 oz/day from plant #1 and a discharge of 1.3 oz/day from plant #2 as the averages for the period of October 15 through October 31. They also reported 6-8 oz/day for all the rest of their facilities for the period of October 20 through October 27.

OVERALL MATERIALS FLOW:

CHLOR-ALKALI PROCESS



DEPARTMENT OF ECOLOGY, STATE OF WASHINGTON

Introduction

The Washington Department of Ecology became involved in a statewide investigation of mercury ever since they were notified by the Food and Drug Administration on April 2, 1970, of the mercury problem in the Great Lakes. Weyerhaeuser was one industry singled out as having a mercury problem.

Mid-April 1970

Representatives of the Department of Ecology and FDA visited the mill to discuss the problem and collect samples in the area.

May 1970

DOE personnel were engaged in developing mercury control requirements.

July 15, 1970

The Department of Ecology announced that it was setting a mercury effluent maximum of 0.05 ppm to be met by January 1, 1971, and that it would be going to 0.005 ppm or to no detectable level at some time thereafter. The waste discharge permit for the Weyerhaeuser mill required (1) that the mercury levels in the mill effluents must be reduced to 0.05 ppm by January 1, 1971, and (2) the mill must provide DOE with a plan and time schedule for further reducing mercury after January 1, 1971. The waste discharge permit was to be in effect by July 31, 1970. At 0.05 ppm and a typical, total flow of 5.0 mgd Weyerhaeuser would be discharging mercury at the rate of 2.1 #/day into the Columbia.

Through November 24, 1970

The State had not initiated any enforcement action against Weyerhaeuser.

FEDERAL WATER QUALITY ADMINISTRATION

The applicable water quality standard adopted by the State of Washington and approved by the Secretary reads as follows:

"Toxic, Radioactive or Deleterious Material Concentrations
shall be below those of public health significance, or
which may cause acute or chronic toxic conditions to the
aquatic biota, or which may adversely affect any water use."

There had not been an official adoption of a standard specifically for mercury as of November 24, 1970. If one is adopted, it will appear in the chronology below under the date when adopted. There have been statements from Washington, D.C., to the effect that zero discharge is the goal. However, there are detectable amounts of mercury in waters influent to the plants.

The Weyerhaeuser plants are in an enforcement conference area, but the conference recommendations are not applicable to mercury discharges.

May 4, 1970

Commissioner Dominick alerted all Regions to Secretary Hickel's actions in the Great Lakes in regard to mercury pollution. Advised all Regions to initiate prompt investigation of mercury users.

May 4, 1970 through May 28, 1970

With support and assistance from Washington Department of Ecology all known users of mercury were located and interviewed. Weyerhaeuser and Georgia-Pacific are all that were considered to be significant problems.

July 13, 1970

Commissioner Dominick informed Northwest Region of imminent action by Department of Interior against mercury dischargers in the United States. He directed immediate sampling for mercury at Weyerhaeuser.

Northwest Regional Office recommended to Headquarters that enforcement action be accomplished under existing law and regulation as provided in Section 10(c)(5) of the Federal Water Pollution Control Act.

July 14, 1970

FWQA sampled discharges to Columbia River. Sampling showed that total losses to the Columbia River were 15.1 #/day.

July 28, 1970

Collected grab samples from chlor-alkali effluents. Only one of the two chlor-alkali plants was in operation at Weyerhaeuser on this day. The mercury discharged from plant #2 to the river was determined to be 1.7 #/day.

July 28, 1970

Collected grab samples from chlor-alkali effluents. Only one of the two chlor-alkali plants was in operation at Weyerhaeuser on this day. The mercury discharged from plant #2 to the river was determined to be 1.7 #/day.

August 3, 1970

Inspected chlor-alkali plants to document abatement measures taken. Substantial re-cycling of mercury-contaminated water had begun, with additional recycling scheduled. Most of the remaining mercury bearing streams had been routed to holding lagoons. Mill personnel indicated that total mercury discharge to the Columbia on that date was about 1.5 #/day.

August 19, 1970

Completed in-plant sampling program at Weyerhaeuser. The total mercury from the two sewers was about .7-.9 #/day.

November 5, 1970

Conducted sampling program.

UNITED STATES DEPARTMENT OF JUSTICE

July 24, 1970

The Justice Department authorized ten mercury pollution suits, Weyerhaeuser included.

July 27, 1970

Meeting held at U.S. Attorney's office, Seattle, with representatives of DOE, FDA, Regional Solicitor's Office, Department of the Interior, Weyerhaeuser Co., and Georgia-Pacific Co. U.S. Attorney Stan Pitkin requested that a resume of past mercury activities concerning the Weyerhaeuser and Georgia-Pacific chlor-alkali operations be provided to him by each participant by the end of that week.

July 29, 1970

Filed suit against Weyerhaeuser in the U.S. District Court in Tacoma. The suit was a civil action to enjoin Weyerhaeuser from discharging mercury or mercury compounds into the Columbia River in violation of Section 13 of the Rivers and Harbors Act of 1899 (30 Stat. 1152, 33 U.S.C. Sec. 407). The Department declined to seek criminal penalties available under the Act. The Department also declined to proceed under the Federal Water Pollution Control Act which under Section 10(c)(5) together with Section 10(g)(1) probably provides for direct federal enforcement action in this case.

October 15, 1970

The U.S. and Weyerhaeuser entered a stipulation, the major provisions of which are as follows:

1. The defendant will continue to limit the average quantity of mercury in its effluent into the Columbia River from its two chlor-alkali facilities in Longview, Washington, to an amount no more than the equivalent of eight ounces per day per facility.
2. On or before December 1, 1970, Defendant shall submit to plaintiff a proposed schedule of future reductions of quantities of mercury in its effluent from its plant at Longview, Washington, and shall report to and advise plaintiff of any additional feasible remedial steps known to defendant that it may take to reduce such quantities in its effluent to the Columbia River from its plant at Longview, Washington, and will submit a time schedule for taking any such steps.

3. If the quantities of mercury in the effluent into the Columbia River from defendant's two chlor-alkali facilities located at Longview, Washington, at any time exceed the average amount of eight ounces per day (except in isolated cases of accidental discharges resulting from loss of power or malfunctioning of equipment) or should the plaintiff decide that its consent to this stipulation should be withdrawn, then plaintiff may request a hearing on its complaint or on a motion for preliminary injunction upon not less than ten days' notice to defendant.
4. The defendant shall daily measure or cause to be measured the quantity of mercury in its effluent into the Columbia River from its two chlor-alkali facilities at Longview, Washington, and shall weekly measure the quantity of mercury in its effluent into the Columbia River from its other facilities in its plant at Longview, Washington, and before the fifth day of every month shall mail to the U.S. Attorney a report of the composite readings covering the immediately preceding calendar month.
5. Employees and agents of the plaintiffs may at any reasonable time enter defendants premises at Longview for sampling mercury, provided reasonable notice is given.
6. The stipulation is without prejudice to the claims on either party with respect to any issue in the action.
7. The stipulation shall not prevent plaintiff from bringing future actions under the Refuse Act with respect to substances other than mercury or its compounds.